

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Kindly delete Claims 1 to 10 and add new Claims 11 through 21 as listed below:

1-10. (Deleted)

11. (New) A process for recovering and beneficially treating cellulosic fiber from compacted waste material containing waste paper comprising before fibrillation of the waste paper, which contains air, confining the waste material in a closed chamber containing a beneficially treating fluid and while the waste material is confined in said chamber,

(a) carrying out a first step of adding additional beneficially treating fluid to said closed chamber thereby compressing air contained in said waste paper so that said air in said waste paper occupies less space, and filling space in the waste paper vacated by the air with beneficially treating fluid,

(b) carrying out a second step to withdraw beneficially treating fluid contained in said chamber, utilizing air entrained in said waste paper and permitting air in said waste paper to expand thereby expelling beneficially treating fluid from the waste paper,

and carrying out steps (a) of compression of air and (b) of expelling at least partially said beneficially treating fluid successively, at least one time to thereby circulate and flush beneficially treating fluid in and out of said compacted waste paper.

12. (New) A process for recovering cellulosic fiber from compacted waste material containing waste paper comprising before fibrillation of the waste paper, which contains air, confining the waste material, in a closed chamber containing a debonding liquid and while the waste material is confined in said chamber.

(a) comprising a first step of adding additional debonding liquid to said closed chamber thereby compressing air contained in said waste paper so that said air in said waste paper occupies less space, and filling space in the waste paper vacated by the air with debonding liquid,

(b) carrying out a second step of removing debonding liquid from said chamber, utilizing air entrained in said waste paper and permitting air in said waste paper to expand thereby expelling debonding liquid from the waste paper, and carrying out steps (a) and (b) at least one time to circulate and flush debonding liquid in and out of the compacted waste paper.

13. (New) A process for recovering and beneficially treating cellulosic fiber from compacted waste material containing waste paper comprising before fibrillation of the waste paper, which contains air, confining the waste material in a closed chamber and adding a beneficially treating liquid into said closed chamber at a first schedule of flow rate and removing air from said closed chamber at a second schedule of flow rate such that the mathematical value of the quantity $\{\Delta V_{12}/[W(1/p_1 - 1/p_2)]\}$ is at least the value VA in feet in which p_1 is a first absolute pressure in pounds per square foot in said closed chamber at a first time and p_2 is a second absolute pressure in pounds per square foot in said closed chamber at a second time and

ΔV_{12} is the volume in cubic feet of beneficially treating liquid added between said first time and said second time and W is the dry weight in pounds of said compacted waste material and where the value of VA in feet is measured in the laboratory and concluded from observations in the laboratory for the grade of waste material being processed and while the waste material is confined in said chamber with said beneficially treating liquid ,

(a) carrying out a first step of adding additional beneficially treating fluid to said closed chamber thereby compressing air contained in said waste paper so that said air in said waste paper occupies less space, and filling space in the waste paper vacated by the air with beneficially treating fluid,

(b) carrying out a second step to withdraw beneficially treating fluid contained in said chamber, utilizing air entrained in said waste paper and permitting air in said waste paper to expand thereby expelling beneficially treating fluid from the waste paper,

and carrying out steps (a) of compression of air and (b) of expelling at least partially said beneficially treating fluid successively, at least one time to thereby circulate and flush beneficially treating fluid in and out of said compacted waste paper.

14. (New) A process for recovering and beneficially treating cellulosic fiber from compacted waste material containing waste paper comprising before fibrillation of the waste paper, which contains air, confining the waste material in a closed chamber and adding a beneficially treating liquid into said closed chamber at a first schedule of flow rate and removing air from said closed chamber at a second schedule of flow rate such that the average pressure at the midpoint in the closed chamber is at least the value PA and where the value of PA is

measured in the laboratory and concluded from observations in the laboratory for the grade of waste material being processed and while the waste material is confined in said chamber with said beneficially treating liquid,

(a) carrying out a first step of adding additional beneficially treating fluid to said closed chamber thereby compressing air contained in said waste paper so that said air in said waste paper occupies less space, and filling space in the waste paper vacated by the air with beneficially treating fluid,

(b) carrying out a second step to withdraw beneficially treating fluid contained in said chamber, utilizing air entrained in said waste paper and permitting air in said waste paper to expand thereby expelling beneficially treating fluid from the waste paper,

and carrying out steps (a) of compression of air and (b) of expelling at least partially said beneficially treating fluid successively, at least one time to thereby circulate and flush beneficially treating fluid in and out of said compacted waste paper.

15. (New) A process for recovering and beneficially treating cellulosic fiber from compacted waste material containing waste paper comprising before fibrillation of the waste paper, which contains air, confining the waste material in a closed chamber and adding a debonding liquid into said closed chamber at a first schedule of flow rate and removing air from said closed chamber at a second schedule of flow rate such that the mathematical value of the quantity $\{\Delta V_{12}/[W(1/p_1 - 1/p_2)]\}$ is at least the value VA in feet in which p_1 is a first absolute pressure in pounds per square foot in said closed chamber at a first time and p_2 is a second absolute pressure in pounds per square foot in said closed chamber at a second time and ΔV_{12} is

the volume in cubic feet of debonding liquid added between said first time and said second time and W is the dry weight in pounds of said compacted waste material and where the value of V_A in feet is measured in the laboratory and concluded from observations in the laboratory for the grade of waste material being processed and while the waste material is confined in said chamber with said debonding liquid ,

(a) carrying out a first step of adding additional debonding fluid to said closed chamber thereby compressing air contained in said waste paper so that said air in said waste paper occupies less space, and filling space in the waste paper vacated by the air with debonding fluid,

(b) carrying out a second step to withdraw debonding fluid contained in said chamber, utilizing air entrained in said waste paper and permitting air in said waste paper to expand thereby expelling debonding fluid from the waste paper,

and carrying out steps (a) of compression of air and (b) of expelling at least partially said debonding fluid successively, at least one time to thereby circulate and flush debonding fluid in and out of said compacted waste paper.

16. (New) A process for recovering and beneficially treating cellulosic fiber from compacted waste material containing waste paper comprising before fibrillation of the waste paper, which contains air, confining the waste material in a closed chamber and adding a debonding liquid into said closed chamber at a first schedule of flow rate and removing air from said closed chamber at a second schedule of flow rate such that the average pressure at the midpoint in the closed chamber is at least the value P_A and where the value of P_A is measured in

the laboratory and concluded from observations in the laboratory for the grade of waste material being processed and while the waste material is confined in said chamber with said debonding liquid,

(a) carrying out a first step of adding additional debonding fluid to said closed chamber thereby compressing air contained in said waste paper so that said air in said waste paper occupies less space, and filling space in the waste paper vacated by the air with debonding fluid,

(b) carrying out a second step to withdraw debonding fluid contained in said chamber, utilizing air entrained in said waste paper and permitting air in said waste paper to expand thereby expelling debonding fluid from the waste paper,

and carrying out steps (a) of compression of air and (b) of expelling at least partially said debonding fluid successively, at least one time to thereby circulate and flush debonding fluid in and out of said compacted waste paper.

17. (New) A process for recovering and beneficially treating cellulosic fiber from compacted waste material containing waste paper comprising before fibrillation of the waste paper, which contains air, confining the waste material in a closed chamber and adding a weak caustic solution into said closed chamber at a first schedule of flow rate and removing air from said closed chamber at a second schedule of flow rate such that the mathematical value of the quantity $\{\Delta V_{12}/[W(1/p_1 - 1/p_2)]\}$ is at least the value VA in feet in which p_1 is a first absolute pressure in pounds per square foot in said closed chamber at a first time and p_2 is a second absolute pressure in pounds per square foot in said closed chamber at a second time and ΔV_{12} is

the volume in cubic feet of weak caustic solution added between said first time and said second time and W is the dry weight in pounds of said compacted waste material and where the value of V_A in feet is measured in the laboratory and concluded from observations in the laboratory for the grade of waste material being processed and while the waste material is confined in said chamber with said weak caustic solution,

(a) carrying out a first step of adding additional weak caustic solution to said closed chamber thereby compressing air contained in said waste paper so that said air in said waste paper occupies less space, and filling space in the waste paper vacated by the air with weak caustic solution,

(b) carrying out a second step to withdraw weak caustic solution contained in said chamber, utilizing air entrained in said waste paper and permitting air in said waste paper to expand thereby expelling weak caustic solution from the waste paper,

and carrying out steps (a) of compression of air and (b) of expelling at least partially said weak caustic solution successively, at least one time to thereby circulate and flush weak caustic solution in and out of said compacted waste paper.

18. (New) A process for recovering and beneficially treating cellulosic fiber from compacted waste material containing waste paper comprising before fibrillation of the waste paper, which contains air, confining the waste material in a closed chamber and adding a weak caustic solution into said closed chamber at a first schedule of flow rate and removing air from said closed chamber at a second schedule of flow rate such that the average pressure at the midpoint in the closed chamber is at least the value P_A and where the value of P_A is measured in

the laboratory and concluded from observations in the laboratory for the grade of waste material being processed and while the waste material is confined in said chamber with said debonding liquid,

(a) carrying out a first step of adding additional weak caustic solution to said closed chamber thereby compressing air contained in said waste paper so that said air in said waste paper occupies less space, and filling space in the waste paper vacated by the air with weak caustic solution,

(b) carrying out a second step to withdraw weak caustic solution contained in said chamber, utilizing air entrained in said waste paper and permitting air in said waste paper to expand thereby expelling weak caustic solution from the waste paper,

and carrying out steps (a) of compression of air and (b) of expelling at least partially said weak caustic solution successively, at least one time to thereby circulate and flush weak caustic solution in and out of said compacted waste paper.

19. A process for recovering cellulosic fiber from compacted OCC comprising before fibrillation of the OCC which contains air, confining the compacted OCC in a closed chamber containing a weak caustic solution and which the OCC is confined in said chamber.

(a) adding weak caustic solution into said closed chamber at a first schedule of flow rate and removing air from said closed chamber at a second schedule of flow rate such that the average pressure at the midpoint in the closed chamber is at least 160 mmHg absolute

and one or more cycles of the consecutive steps of:

(b) adding additional weak caustic solution to said closed chamber and

(c) removing weak caustic solution from said pressure chamber to circulate and flush weak caustic solution in and out of the compacted OCC.

20. (New) A process for recovering cellulosic fibers from compacted waste material containing waste paper comprising before fibrillation, confining said waste paper which contains air in a closed pressure chamber containing a fiber debonding liquid and carrying out one or more cycles of the consecutive steps of:

(a) connecting said pressure chamber to a debonding liquid supply having a pressure above 760 mm absolute and

(b) reducing the pressure within said pressure chamber to no more 760 mm absolute.

21. (New) The process of Claim 19 wherein step (b) comprises reducing the pressure within said pressure chamber to within 250-600 mm absolute.